

September 3, 2013

**VIA E-MAIL DOCKET@ENERGY.  
CA.GOV**California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 13-IEP-1D  
1516 Ninth Street  
Sacramento, CA 95814-5512Re: 2013 Integrated Energy Policy Report: Lead Commissioner Workshop on Evaluation of Electricity System Needs in 2030 – Comments of Pacific Gas and Electric Company**I. INTRODUCTION**

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the California Energy Commission's (CEC) August 19 Workshop titled "Lead Commissioner Workshop on Evaluation of Electricity System Needs in 2030" (Workshop). The purpose of the Workshop, as described in the notice, is to solicit stakeholder input on electric system developments between 2020 and 2030, and beyond 2030, as part of the 2013 Integrated Energy Policy Report (IEPR) proceeding. PG&E believes this is a timely and important discussion.

PG&E's detailed comments are set forth in Section II and Section III below. Section II presents PG&E's input on what it sees as the key questions for 2020 to 2030, and beyond 2030; Section III recommends the CEC incorporate a transparent, cost-based prioritization framework and discusses PG&E's Carbon Metric Framework (CMF),<sup>1</sup> as an example of such a structure. The following summarizes PG&E's key points:

- The state is undergoing a major transformation in the way the electricity sector generates and distributes energy. These efforts have brought significant challenges, which must be addressed.

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<sup>1</sup> Williams, R. (2013, August). Finding Cost-Effective Greenhouse Gas Reductions (2030). Presented at the Workshop on Evaluation of Electricity System Needs in 2030, California Energy Commission. Retrieved from [http://www.energy.ca.gov/2013\\_energy\\_policy/documents/2013-08-19\\_workshop/presentations/11\\_Pacific\\_Gas\\_and\\_Electric\\_130816\\_Draft\\_CEC\\_IEPR\\_Workshop\\_Slides.pdf](http://www.energy.ca.gov/2013_energy_policy/documents/2013-08-19_workshop/presentations/11_Pacific_Gas_and_Electric_130816_Draft_CEC_IEPR_Workshop_Slides.pdf)

- The major challenge in the medium-term (2020 to 2030) and long-term (beyond 2030) is to meet state policy goals, while maintaining an affordable, reliable, safe, and environmentally friendly electric distribution and generation system.
- The CEC should build upon the robust planning efforts underway at the California Public Utilities Commission (CPUC), California Independent System Operator (CAISO), California Air Resources Board (ARB), and other agencies.
- The IEPR would be an excellent venue to integrate these existing planning efforts, in a single, comprehensive picture of the challenges for 2020 to 2030, and beyond 2030.
- PG&E recommends that the Commission, in its effort to develop specific scenarios for 2030, incorporate a transparent, cost-based prioritization framework. Such a framework would help ensure that state goals are met with a mix of cost-effective policies.
- As a starting point, PG&E refers the CEC to the CMF presented by Ray Williams at the Workshop.<sup>2</sup>

## **II. THE CEC SHOULD USE THE IEPR TO INTEGRATE EXISTING PLANNING EFFORTS IN A SINGLE, COMPREHENSIVE ANALYSIS**

The purpose of the Workshop is to solicit stakeholder input on electric system developments between 2020 and 2030, and beyond 2030, as part of the IEPR proceeding. This is a timely and important topic, as the state is undergoing a major transformation in the way the electricity sector generates and distributes energy. In a relatively short period, California has instituted a number of major energy policies: 33 percent of all retail electricity sales will come from eligible renewable resources in 2020; greenhouse gas (GHG) emissions must be reduced to 1990 levels by 2020; once-through cooling regulations will result in the potential retirement of more than 17,000 megawatts of (MW) capacity by 2020; and the state has set a goal of 12,000 MW of renewable energy from distributed generation, to name just a few.

In addition to each policy's stated goals, these efforts have brought significant challenges. For example, the projected additions of intermittent renewables planned to meet a 33 percent renewable requirement require more operationally-flexible resources to balance loads and resources. Additionally, the state is projecting the potential retirement of about 15,000 MW of capacity within the next 10 years, which includes the permanent closure of San Onofre Nuclear Generating Station. The major challenge in the medium-term (2020 to 2030) and long-term (beyond 2030) is to meet the goals of these policies, while maintaining an affordable, reliable, safe, and environmentally friendly electric and generation system.

A robust planning effort is underway among the responsible agencies. To name only a few: the CPUC develops 10-year procurement plans through its Long-Term Procurement Plan

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<sup>2</sup> Ibid.

(LTPP) process and ensures sufficient supply in its Resource Adequacy Program; the CEC and CPUC implement the Renewable Portfolio Standard (RPS) for publicly-owned utilities (POU) and investor-owned utilities (IOU) respectively; the CAISO plans for the upgrade and expansion of transmission with its Transmission Planning Process (TPP); and the Air Resources Board has numerous regulatory proceedings to meet the state's climate goals.

In light of these and other challenges, PG&E is pleased to see the Commission addressing these issues in the IEPR proceeding. The IEPR is one of the few venues in California where major energy trends and issues can be examined on a statewide basis. PG&E recommends that the Commission use the IEPR as the forum to integrate the planning efforts occurring among existing state agencies into a single, comprehensive picture of 2020 to 2030, and beyond 2030.

### **III. THE STATE NEEDS A TRANSPARENT, COST-BASED, PRIORITIZATION FRAMEWORK**

Participants at the workshop discussed a wide variety of issues and proposed solutions, which vary from the distribution-transmission interface to GHG pricing policies. In light of this diversity, PG&E recommends that the Commission, in its effort to develop specific scenarios for 2030, incorporate a transparent, cost-based prioritization framework. Such a framework would help ensure that the state goals are met with a mix of cost-effective policies.

As a starting point, PG&E refers the CEC to the CMF presented by Ray Williams at the Workshop.<sup>3</sup> The CMF is a methodology for arriving at the cost of GHG abatement activities (e.g., energy efficiency) on a dollar per metric ton basis. This in turn is obtained by dividing the net costs of an abatement measure by the total GHG emissions abated.<sup>4</sup> While the CMF was developed to specifically address GHG abatement measures and, thus, would need to be modified for the CEC's purposes, PG&E believes it offers five key benefits:

- Encourage stakeholder engagement around a standardized analytical framework, focused on cost-effectiveness;
- Provide a high-level "status-check" on 2020 policies and goals;
- Provide a tool that can be used to prioritize activities in the post-2020 timeframe; and
- Promote a constructive dialogue about a sensible and affordable clean energy policy.

Under the CMF, GHG abatement measures can be conceptually divided as follows: (1) cost-effective policies designed to remove investment barriers (green area); (2) moderate-cost actions that may be cost-effective within the range of possible carbon prices (yellow area); and (3) high cost technology advancement policies that are not cost-effective relative to current carbon prices, but may be needed in the longer-run to facilitate innovation and reduce the costs of long-term carbon

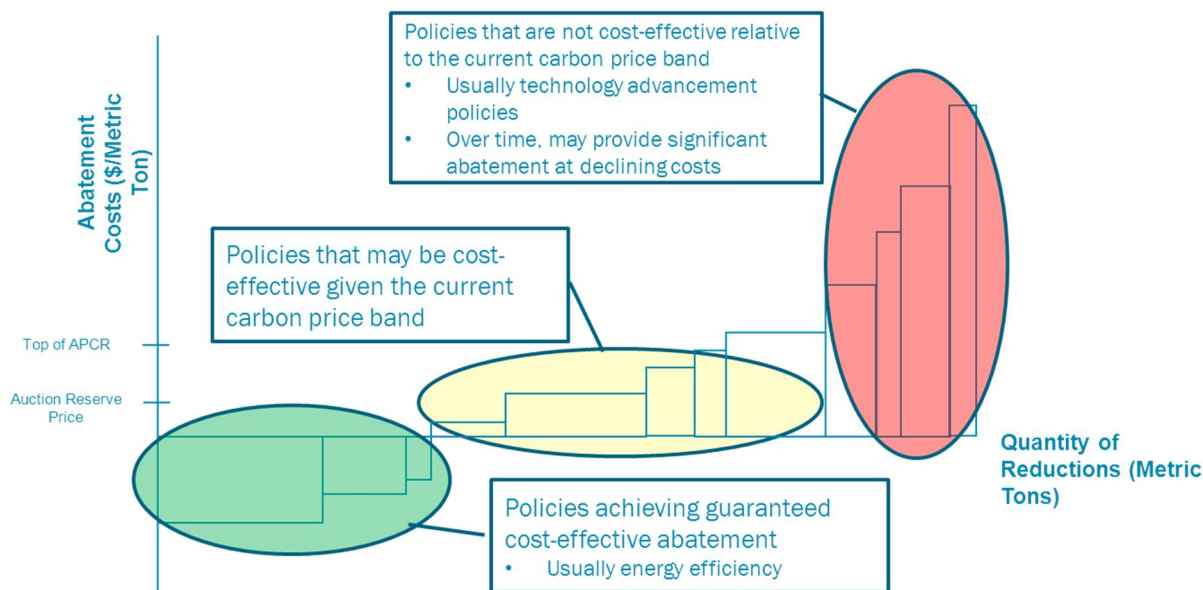
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<sup>3</sup> Ibid.

<sup>4</sup> Specifically, the net present value of the net costs and GHG emissions abated.

reduction (red area). A similar grouping could be adapted for the CEC's IEPR or other purposes (see Figure 1).

**Figure 1. Three Conceptual Categories of Greenhouse Gas Abatement Activities**



PG&E's believes a framework similar to the CMF is essential to ensuring the state is on track to meet its energy policy goals in the cost-effective fashion mandated by AB 32. Without such a framework, it will also be extremely challenging for the CEC and the state to analyze the least-cost strategy for making progress toward post-2020 goals. PG&E would be happy to discuss this in greater detail with CEC Staff or Commissioners.

Additionally, in California, the electric grid will continue to become cleaner due to AB 32 and other related policies. As a result, technologies that may be viewed homogeneously, like combined heat and power, need to be differentiated. In the case of CHP, delineation between "bottoming-cycle" and "topping-cycle" technology is needed. PG&E supports affordable bottoming-cycle and renewable-fueled combined heat and power and recognizes that these CHP configurations can reduce greenhouse gas emissions because they do not require combustion of additional fossil fuel. However, conventional topping-cycle CHP does require fossil fuel combustion and, by 2020, may produce more emissions than separate heat and power, due to expected improvements in grid emissions performance. Therefore, treatment of fossil-fueled topping-cycle CHP as a preferred resource may not be justified post-2020. Furthermore, from an operations perspective, topping-cycle CHP is typically a "baseload, must-take" resource that provides only very limited operational flexibility. As such, it could potentially exacerbate the already challenging integration of sufficient renewable electricity to meet California's long-term GHG reduction goal.

#### **IV. CONCLUSION**

PG&E is committed to continuing to work with CEC Staff and stakeholders throughout the IEPR proceeding on developments in the electricity sector. Please contact me if you have any questions or wish to discuss these matters further.

Sincerely,

/s/

Matthew Plummer

cc: D. Vidaver ([David.Vidaver@energy.ca.gov](mailto:David.Vidaver@energy.ca.gov))